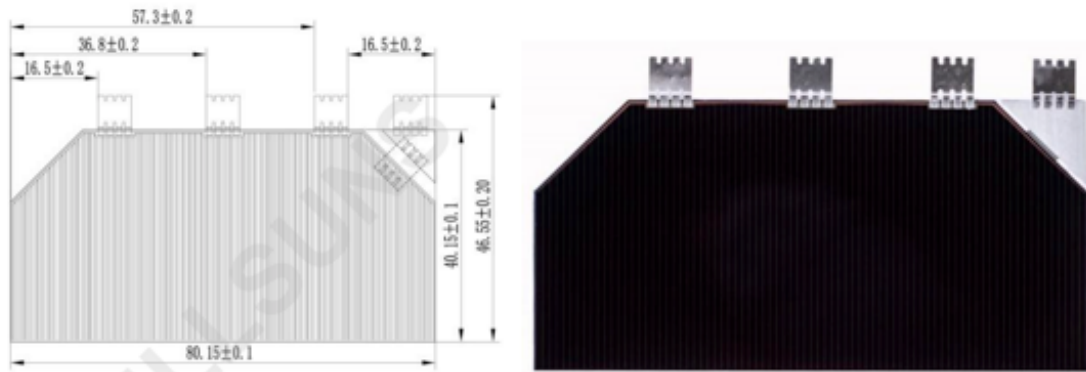


30% Efficiency Triple Junction GaAs Solar Cell Assembly

Type: ES-30TJSC-30

This cell type is a GaInP/GaAs/Ge on Ge substrate triple junction solar cell assembly (efficiency class 30%). The solar cell assembly is equipped with an external silicon bypass diode, interconnectors and cover glass.



1. Design and Mechanical Data

Base Material	GaInP ₂ /GaAs/Ge on Ge substrate
AR-coating	TiO _x /Al ₂ O ₃
Dimensions	(80.15mm±0.1mm) × (40.15mm±0.1mm)
Cell Area	30.15cm ²
Weight	3.7g±0.3g
Thickness	300μm±25μm
Coverglass	KFB 120 AR
Coverglass thickness	120±20μm
Interconnectors	Kovar, silver coated
Dimensions(interconnenctor)	6.3mm×8.0mm
Interconnector thickness	30μm
Bypass protection	External Si diode

2. Typical Electrical Parameters (SCA)

Average Open Circuit Voc (mV)	2750
Average Short Circuit Isc (mA)	520
Average Short Circuit density Jsc (mA/cm ²)	17.3
Voltage @ Max. Power Vm (mV)	2430
Current @ Max. Power Im (mA)	503

Current density@ Max. Power J_m (mA/cm ²)	16.7
Average Efficiency η_{bare} (1353W/m ²)	30%

3. Radiation Degradation (Fluence 1MeV)

Parameters	$1 \times 10^{14} e/cm^2$	$5 \times 10^{14} e/cm^2$	$1 \times 10^{15} e/cm^2$
I_m/I_{m0}	0.99	0.98	0.96
V_m/V_{m0}	0.96	0.93	0.91
P_m/P_{m0}	0.95	0.91	0.87

4. Acceptance Values (SCA)

Voltage VL	2350mV
Min. average current IL min @ VL	500mA
Min. individual current IL ave @ VL	490mA

5. Shadow Protection(Discrete bypass diode)

Vforward(620mA)	$\leq 1.0V$
Ireverse(4.0V)	$\leq 10\mu A$

6. Temperature Coefficients (20°C ~ 65°C)

Parameters	BOL	1 MeV, $5 \times 10^{14} e/cm^2$	1 MeV, $1 \times 10^{15} e/cm^2$
J_{sc} ($\mu A/cm^2/^\circ C$)	11.0	10.0	13.0
V_{oc} (mV/°C)	-5.9	-6.1	-6.3
J_m ($\mu A/cm^2/^\circ C$)	9.0	9.5	15.0
V_m (mV/°C)	-6.0	-6.2	-6.5

7. Threshold Values

Absorptivity	≤ 0.92
Pull Test(at 45°)	$\geq 0.83N/mm^2$
Status	Qualified

IV Test Standard: AM0, 1sun, 1353W/m², 25°C.

Above is our parameter introduction about 30% Efficiency Triple Junction GaAs Solar Cell Assembly, you can contact us through marketing@fullsuns.com, our delivery time is stable at 1-2 months, welcome your inquiry and order!